

Serial Number 08/933,822 filed September 19, 1997

PatentsIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 1733

Examiner: Sam Chuan Yao

P.D. File No.: 30-2138CIP1

In re Application of: CHARLES EDWARD BOWERS

Serial No.: 08/933,822

Filed: September 19, 1997

For: YARN WITH HEAT-ACTIVATED BINDER MATERIAL AND PROCESS  
OF MAKING

Petersburg, VA 23804

October 8, 2001

**FAX RECEIVED**Assistant Commissioner for Patents  
Washington, DC 20231

OCT 08 2001

AMENDMENT**GROUP 1700**

Sir:

Responsive to the Office Action mailed April 9, 2001, please enter the following remarks:

**REMARKS**

Applicant's invention is a process for producing a tufting yarn. Carpet constructed from yarn produced according to this process exhibits improved wear and crush resistance. The yarn is most preferably produced from precursor base fibers and from about 0.1 to 12 weight percent of a heat activated binder material, preferably a binder fiber, that has a lower melting point than the melting point of the base fibers. The precursor base fiber is supplied as a bundle of fibers, either staple or continuous filament, that is subsequently ring spun or wrap spun with a second fiber to form a yarn. The second fiber, which is twisted or wrapped uniformly around the fiber bundle during spinning, comprises a binder material in amount sufficient to constitute 0.1 to 12 percent by weight of the yarn. Two or more of these spun yarns are optionally ply twisted to form a plied yarn. The yarn is heated to melt the binder material (fiber), preferably during twist setting, which causes bonding to occur discontinuously and randomly over substantially the entire length of the yarn at locations of fiber contact. This yarn is then used as face fiber in pile carpet constructions. The bonds formed by the cooled binder material unexpectedly enhance the rigidity of the carpet tufts and thus, their resistance to crushing or compression.

Claims 16, 18 and 21 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being